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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/399,694	09/21/1999	MARK ANTHONY CESARE	ST9-99-037	2556

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KONRAD RAYNES & VICTOR, LLP
315 S. BEVERLY DRIVE
210
BEVERLY HILLS, CA 90212

EXAMINER	
PHAM, HUNG Q	
ART UNIT	**PAPER NUMBER**
2162	

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/399,694	CESARE ET AL.	
	Examiner	Art Unit	
	HUNG Q PHAM	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,8-14,17,18,21-27,30,31,34-40,43 and 44* is/are rejected.

7)☒ Claim(s) *2,3,6,7,15,16,19,20,28,29,32,33,41,42,45 and 46* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

- Applicant's arguments with respect to the rejection of claims 1, 14, 27 and 40 under U.S.C § 103 have been considered but are moot in view of the new ground(s) of rejection.

- Applicant's amendment with respect to the objection of claim 45 has been fully considered, and the objection of claim 45 has been withdrawn.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 14 and 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- As set forth in MPEP 2106 (II) (A):

> *The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting*

> *point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.*
>
> *Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.*

Regarding claims 1 and 40, the technique of performing a clean operation on an input table as claimed can be implemented with a pencil, an eraser and a piece of paper that contains a data table. Further, the language of claim 1 raises a question as to whether the claimed method is directed merely to an abstract idea that is not tied to a technological art, environment, or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject

matter under 35 U.S.C. § 101. The claims should be amended to indicate the subject matter is implemented by a computer, i.e., a computer implemented method, a computer readable memory medium.

- As set forth in MPEP 2106 (IV) (B) (2) (a):

> *Products may be either machines, manufactures, or compositions of matter.*
>
> *A machine is "a concrete thing, consisting of parts or of certain devices and combinations of devices." Burr v. Duryee, 68 U.S. (1 Wall.) 531, 570 (1863).*
>
> .....
>
> *If a claim defines a useful machine or manufacture by identifying the physical structure of the machine or manufacture in terms of its hardware or hardware and software combination, it defines a statutory product. See, e.g., Lowry, 32 F.3d at 1583, 32 USPQ2d at 1034-35; Warmerdam, 33 F.3d at 1361-62, 31 USPQ2d at 1760.*

Regarding claim 14, a system for performing a clean operation was claimed but there is no *physical structure of the machine or manufacture in terms of its hardware or hardware and software combination.* Therefore, the claim is not a statutory system.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 14, 27 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 14, 27 and 40 recite a conditional limitation, ***if the rule definition does not specify an output table***, for implementing the step of inserting. There is insufficient antecedent basis for this limitation in the claim because in the step of receiving at least one rule definition, the condition of not specifying an output table was not indicated in the rule definition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 5, 14, 17, 18, 27, 30, 31, 40, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudsen et al. [USP 5,596,752].

Regarding claims 1, 14, 27 and 40, Knudsen teaches a method, also a system and a program for manipulating data in a database consists of a plurality of tables (Summary). The method and system is based on a plurality of predefined commands include GET statement for retrieving data from one or more columns of an input table that satisfy search criteria, and a REPLACE statement with a replacement value (Col. 11, Lines 1-20, and Col. 12, Line 64-Col. 13, Line 15), such as:

GET MONTHS WHERE MONTH = MM AND DAY ≥ DD

REPLACE CARS WHERE CITY = INPUT.CITY

- As seen, the GET and REPLACE statement performs the claimed ***receiving at least one rule definition, wherein each rule definition indicates a find criteria, a replacement value, and an input data column in the input table.***

- Knudsen further discloses the steps of ***searching, for each rule definition, the input data column for any fields that match the fine criteria*** (Col. 10, Lines 55-Col. 11, Lines 20),
- ***directly inserting, for each rule definition, the replacement value in the fields in the input data column*** (Col. 12, Lines 64-Col. 13, Lines 15).

Knudsen does not explicitly teach the condition for directly inserting: ***if the rule definition does not specify an output table***, and the claimed ***subsequent applications of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule definitions***.

However, as seen in the GET and REPLACE statement, there is no output table was specified and this meets the condition: ***if the rule definition does not specify an output table***, and if only one rule definition was received, there is no need of the claimed ***subsequent applications of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule definitions***, and the teaches of Knudsen of one rule definition still meet the requirement of the process of cleaning.

In addition, since the REPLACE statement changed the value of a field in the table column, obviously, subsequent statement will operate on the replacement value because the old value is no longer existed.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Knudsen technique by including the

condition of not specifying an output table and operating on the replacement value in order to update and maintain the consistency of data.

Regarding claims 4, 17 and 30, Knudsen teaches all of the claimed subject matter as discussed above with respect to claims 1, 14 and 27, Knudsen further discloses ***the input data column for a first and second applied rule definitions is the same input data column, wherein the replacement value for the first rule definition is inserted into at least one field in the input data column, and wherein the find criteria of the second rule definition is applied to the replacement value inserted in the input data column*** (Col. 10, Line 55-Col. 11, Line 29 and Col. 12, Line 37-Col. 13, Line 15).

Regarding claims 5, 18, 31 and 44, Knudsen teaches all of the claimed subject matter as discussed above with respect to claims 1, 14, 27 and 40, Knudsen further discloses ***at least one rule definition includes multiple find criteria and a corresponding replacement value for each find criteria, wherein the step of searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content*** (Col. 10, Line 55-Col. 11, Line 29 and Col. 12, Line 37-Col. 13, Line 15).

Regarding claim 43, Knudsen teaches all the claimed subject matters as discussed in claim 40, Knudsen further discloses ***the input data column for a first and second applied rule definitions is the same input data column*** (Col. 12, Line 37-Col. 13, Line 63 and Col. 62, Lines 4-28).

Claims 8-13, 21-26 and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knudsen et al. [USP 5,596,752] in view of Agarwal et al. [USP 6,370,522 B1].

Regarding to claims 8, 21 and 34, Knudsen teaches all the claim subject matters as discussed in claims 1, 14 and 27, Knudsen does not explicitly teach ***the find criteria for at least one rule definition comprises an upper bound and lower bound, wherein searching comprises searching for any fields that have values within the upper and lower bounds.*** However, searching for a particular field in a table with an upper bound and lower bound is very well known in the art, and disclosed by Agarwal (Agarwal, Col. 9, Lines 35-62). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Knudsen technique of propagating of deletion by including and upper and lower bound in order to propagate the deletion of particular columns between a specified range.

Regarding to claims 9, 22 and 35, Knudsen and Agarwal, in combination, teach all of the claimed subject matter as discussed above with respect to claims 8, 21 and

34, Knudsen further discloses the step of ***searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content*** (Knudsen, Col. 10, Line 55-Col. 11, Line 29 and Col. 12, Line 37-Col. 13, Line 15).

Regarding to claims 10, 23 and 36, Knudsen and Agarwal, in combination, teach all of the claimed subject matter as discussed above with respect to claims 8, 20 and 34, Agarwal further discloses the step of ***searching for any fields that have values outside of one of the upper and lower bounds*** (Agarwal, Col. 9, Lines 35-62).

Regarding to claims 11, 24 and 37, Winter teaches all the claimed subject matters as discussed in claims 1, 14 and 27, but does not explicitly teach ***the find criteria for at least one rule definition comprises an upper bound and lower bound and wherein the replacement value is an upper replacement value and further comprising a lower replacement value, wherein searching comprises searching for any fields that have values within the upper and lower bounds and wherein inserting comprises inserting the upper replacement value if the field has a value greater than the upper bound and inserting the lower replacement value if the field has a value less than the lower bound***. However, searching for a particular field in a table with an upper bound and lower bound is very well known in the art, and disclosed by Agarwal (Agarwal, Col. 9, Lines 35-62). It would have been obvious for one

of ordinary skill in the art at the time the invention was made to modify the Winter technique of propagating of deletion by including and upper and lower bound in order to propagate the deletion of particular columns between a specified range.

Regarding to claims 12, 25 and 38, Knudsen and Agarwal, in combination, teach all of the claimed subject matter as discussed above with respect to claims 11, 24 and 37, Knudsen further discloses the step of ***searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content*** (Knudsen, Col. 10, Line 55-Col. 11, Line 29 and Col. 12, Line 37-Col. 13, Line 15).

Regarding to claims 13, 26 and 39, Knudsen teaches all the claimed subject matters as discussed in claims 1, 14 and 27, but does not explicitly teach ***a row clean flag, and wherein at least one rule definition has the row clean flag set, further comprising removing any row including a field matching the search criteria from the input table when the row clean flag is set.*** Agarwal teaches a technique of setting a flag to indicate a record includes in a range of search (Agarwal, Col. 11, Lines 46-55). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Winter technique by using a flag to indicate a returned record that match the search

criteria in order to propagate the deletion of particular columns between a specified range.

Allowable Subject Matter

Claims 2, 3, 6, 7, 15, 16, 19, 20, 28, 29, 32, 33, 41, 42, 45 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 3, 6, 7, 15, 16, 19, 20, 28, 29, 32, 33, 41, 42, 45 and 46, Knudsen also teaches a method and system for manipulating data in a database, but fails to teach or suggest,

- ***the rule definition is associated with one rule table including the find criteria and replacement value, wherein a rule table column parameter for each rule definition indicates the columns in the rule table including the find criteria and replacement value for the rule definition*** as in claims 2, 15, 28 and 41,
- ***a separate rule table including the find criteria and replacement value associated with at least one rule definition, wherein, for each rule definition, a rule table column parameter indicates the columns in the rule table for the rule***

definition including the find criteria and replacement value for that rule definition as in claims 3, 16, 29 and 42,

- ***a sort column includes values to use to sort the multiple find criteria and corresponding replacement value, wherein the step of searching comprises applying the multiple find criteria to each field in the order specified in the sort column*** as in claims 6, 19, 32 and 45,
- ***a type of rule that is a member of the set of rules consisting of: find and replace, discretization, and numeric clip, wherein at least two rule definitions are comprised of different rule types*** as in claims 7, 20, 33 and 46.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Hung Pham
December 23, 2004

M. ALI
Primary Examiner